

Claims

[1] A screening method for an RNase H inhibitor of a reverse transcriptase, comprising;

- 5 (a) a process to incubate a substrate which a primer hybridized to a template, a metal ion and a reverse transcriptase to form a complex,
(b) a process to add a test substance after the process (a) and incubate, and
(c) a process to add dNTPs after process (b) to initiate DNA synthesis,
provided that,

10 the template is 5'-NRWXZ- 3' and the primer is 3'-Y- 5' (Y hybridizes to X of a template),
the template is 5'-NRWX-3' and the primer is 3'-YZ- 5' (Y hybridizes to X of a template),
or the substrate is 5'-NRWXZY- 3' (Y hybridizes to X),
wherein,

15 N is 13 - 19 mer DNA, RNA or a chimeric nucleic acid,

R is RNA,

W is DNA or a chimeric nucleic acid,

X is 15 mer or more DNA, RNA or a chimeric nucleic acid,

Y is a same length DNA, RNA or chimeric nucleic acid with X to which Y hybridizes.

20 In case that X to which Y hybridizes is DNA, Y is DNA. In case that X to which Y hybridizes is RNA, Y is RNA. In case that X to which Y hybridizes is a chimeric nucleic acid, Y is a chimeric nucleic acid (In the chimeric nucleic acid, in case that X to which Y hybridizes is DNA, Y is DNA. In case that X to which Y hybridizes is RNA, Y is RNA).

25 Z is DNA, RNA or a chimeric nucleic acid

(provided that, W and Z can be absent).

[2] The screening method of claim 1, wherein N is RNA, W is absent, X is RNA, and Y is RNA.

[3] The screening method of claim 1, wherein N is RNA, W is absent, X is DNA, and

30 Y is DNA.

- [4] The screening method of any one of claim 1 - 3, wherein X is 18 mer or more DNA, RNA or a chimeric nucleic acid.
- [5] The screening method of any one of claim 1 - 3, wherein the metal ion is Mg^{2+} or Mn^{2+} .
- 5 [6] The screening method of claim 1, wherein a formation inhibitor to a complex of a reverse transcriptase, a substrate and a metal ion is added with dNTPs in process (c).
- [7] The screening method of claim 6, wherein the formation inhibitor is heparin.
- [8] The screening method of claim 1, comprising:
after the process (c),
- 10 (d) a process to measure the amount of nucleic acid cleaved from the template, and
(e) a process to compare the measured value with a measured value under the absence of a test substance.
- [9] The screening method of claim 8, wherein the template is a template whose 5'-end or 3'-end is labeled.
- 15 [10] The screening method of claim 1, wherein the reverse transcriptase is a reverse transcriptase of a virus.
- [11] The screening method of claim 10, wherein the virus is HIV.
- [12] The screening method of claim 10, wherein the reverse transcriptase is Y188L mutant enzyme.